BTEC Assignment Brief

Qualification	Pearson BTEC International Level 3 Subsidiary Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Foundation Diploma in Construction and the Built Environment Pearson BTEC International Level 3 Diploma in Civil Engineering Pearson BTEC International Level 3 Extended Diploma in Civil Engineering
Unit number and title	**Unit 10: Surveying in Construction**
Learning aim(s) (For NQF only)	**Learning B:** Undertake fieldwork surveys to collect data for drawings **Learning C:** Develop drawings from completed fieldwork surveys.
Assignment title	Production of survey drawings
Assessor	
Issue date	
Hand in deadline	

Vocational Scenario or Context	You are employed as an apprentice surveyor with a medium sized construction company. The company is involved in a range of work that requires different surveying methods and techniques to be used. The senior engineer has asked you to carry out fieldwork with each of the different methods and techniques the company uses such as linear, levelling and angular measurement surveys. You should record your data on suitable documents and carry out the necessary calculations and checks as required. Reflect on the equipment and accuracy of each method used for the different aspects of surveying fieldwork. Consider how the fieldwork data can be applied to produce appropriate construction drawings. Create a portfolio of industry standard plan and section scaled detail drawings and analysis how the accuracy of the field data impacts on them. You will use your fieldwork, calculations and drawings to produce a report that would be acceptable for the manager.

Task 1	You have been asked to examine the methods used to produce accurate fieldwork survey information for the development of industry standard drawings. Reflect on the challenges producing accurate drawings from completed fieldwork surveys. **To do this:** • Research how fieldwork survey data can be used to create construction drawings • Research the checks and adjustments needed for the

	equipment
	• Consider the impact of the accuracy of the checks and calculations.
	• Carry out survey fieldwork for each method and record the data.
	• Carry out checks and calculations on the fieldwork data.
	• Produce a portfolio of industry standard construction drawings
	• Reflect on the challenges of producing the drawings from the fieldwork data.
	
	You then need to:
	Produce an illustrated technical report that examines how the fieldwork data from the surveys can be applied to create construction drawings. Your report should include:
	
	- A review of equipment selection and the alternatives that could be used
	- Detailed survey notes and booking sheets
	- A demonstration of the checks and adjustments required and how these impact on accuracy
	- Provision of calculations and checks on accuracy
	- Production of a portfolio of industry standard construction drawings, to include:
	  - A linear plan detail of one surveyed line
	  - A contoured plan section of the area surveyed
	  - A section detail along one survey line
	  - A corrected traverse plan detail
	
	Conclude your report with a reflection on how the accuracy of the data and the methods used affects the accuracy and quality of construction drawings.

Checklist of evidence required	Evidence will be in the form of a report that must include: - Records of fieldwork carried out for each surveying technique - Explanation of checks and adjustments carried out on the equipment during the fieldwork - Calculations and assessment of accuracy of the data - Consideration of how the fieldwork data can be used to produce construction drawings - A portfolio of industry standard drawings and a reflection on the methods and difficulties of producing the drawings Your report should include evidence of individual fieldwork conducted by the learner for example, photographs or notes and sketches. These will be fully annotated and referenced appropriately to support the narrative of the evidence. Tutor observation records will be required to support any evidence of practical and skills based activities recorded in your portfolio.

	The drawings/details can be produced using manual or Computer aided design (CAD) drawing techniques.
Criteria covered by this task:	
Unit/Criteria reference	To achieve the criteria you must show that you are able to:
6/C.D3	Evaluate the production of drawings from completed fieldwork surveys.
6/B.D2	Evaluate the methods used to produce accurate fieldwork survey information for the development of accurate drawings.
6/C.M3	Produce plans of land and section detail drawings from completed fieldwork surveys to a high level of technical skill and accuracy.
6/B.M2	Justify the selection of equipment, methods used, the application of systematic checking, instrument adjustment and accuracy of calculations to provide accurate fieldwork survey information.
6/C.P6	Produce plans of land and section detail drawings from completed fieldwork surveys.
6/B.P5	Perform correct calculations to support fieldwork activities.
6/B.P4	Perform linear, levelling and angular measurement surveys using appropriate equipment and booking methods.
6/B.P3	Perform systematic checks and adjustments to equipment and instruments appropriate for the fieldwork surveying activity.
Sources of information to support you with this Assignment	**Textbooks** Irvine, W. & Maclennan F 2006. Surveying for Construction (5th edition) McGraw Hill, Uren J & Price WF 2010 Surveying for Engineers (5th Edition) Palgrave Macmillan Bannister, Raymond & Baker 1998. Surveying (7th edition). Longman **Further useful resources may be found at** qualifications.pearson.com/en/support/published-resources.html
Other assessment materials attached to this Assignment Brief	*N/A*